

September 8, 2003  
Case No. PHF 99,548 (7790/275)  
Serial No.: 09/587,394  
Filed: June 5, 2000  
Page 10 of 14

**REMARKS**

In the Non-Final Office Action, Examiner Patel objected to and rejected pending claims 1-15 on various grounds. The Applicant responds to each objection and rejection as subsequently recited herein, and respectfully requests reconsideration and further examination of the present application under 37 CFR § 1.112:

- A. Examiner Patel objected to pending claim 14 pursuant to MPEP §705.01(e)

The Applicant has cancelled claim 14 without prejudice or disclaimer to the subject matter of claim 14. Withdrawal of the objection of claim 14 is therefore respectfully requested.

- B. Examiner Patel objected to pending claims 3 and 10 pursuant to MPEP §608.01(m)

The Applicant has cancelled claims 3 and 10 without prejudice or disclaimer to the subject matter of claims 3 and 10. Withdrawal of the objection of claims 3 and 10 is therefore respectfully requested.

- C. Examiner Patel rejected pending claim 3 under 35 U.S.C. §112, ¶2

The Applicant has cancelled pending claim 3 without prejudice or disclaimer to the subject matter of claim 3. Withdrawal of the rejection of claim 3 under 35 U.S.C. §112, ¶2 is therefore respectfully requested.

- D. Examiner Patel objected to pending claim 7 under 37 C.F.R. §1.75(c)

The Applicant has cancelled pending claim 7 without prejudice or disclaimer to the subject matter of claim 7. Withdrawal of the rejection of claim 7 under 37 C.F.R. §1.75(c) is therefore respectfully requested.

September 8, 2003  
Case No. PHF 99,548 (7790/275)  
Serial No.: 09/587,394  
Filed: June 5, 2000  
Page 11 of 14

E. Examiner Patel rejected pending claims 1-15 under 35 U.S.C. §112, ¶1

The Applicant respectfully traverses this 35 U.S.C. §112, ¶1 of claims 1-15, because the specification clearly provides a description of the present invention in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected to make and/or use the present invention. Specifically, the Applicant (1) provides an enabling description of the path-tracking method illustrated in FIG. 1, (2) provides an enabling description of an exemplary front propagation of points as illustrated in FIGS. 2A-2C, (3) provides an enabling description an exemplary weighted curve as illustrated in FIG. 3, (4) provides an enabling description of an exemplary determination of a curvature of a path as illustrated in FIGS. 4A and 4B, and (5) provides an enabling description of an exemplary apparatus as illustrated in FIG. 5 for executing the path-tracking method illustrated in FIG. 1.

Nonetheless, the Applicant has cancelled pending claims 1-15 without prejudice or disclaimer to the subject matter of claims 1-15. Withdrawal of the rejection of claims 1-15 under 35 U.S.C. §112, ¶1 is therefore respectfully requested.

F. Examiner Patel rejected pending claim 1 under 35 U.S.C. §103 (a) over a publication entitled "A fast marching level set method for monotonically advancing fronts" to *Sethian* in view of U.S. Patent No. 5,067,166 to *Ito*

The Applicant has thoroughly considered Examiner Patel's remarks concerning the patentability of independent claim 1 over *Sethian*. The Applicant has also thoroughly read *Sethian* in view of *Ito*. While the Applicant respectfully traverses this 35 U.S.C. §103(a) rejection of independent claim 1 due to the unequivocal teaching away by *Sethian* of "a second processing step of performing a second path-tracking operation for employing a technique for supplying a best path from a first track of the at least one first track by back propagating the front starting at

September 8, 2003  
Case No. PHF 99,548 (7790/275)  
Serial No.: 09/587,394  
Filed: June 5, 2000  
Page 12 of 14

the end point and going through already determined children and corresponding fathers until the start point is reached" as recited in independent claim 1, the Applicant has cancelled claims 1-15 herein and added new claims 16-. The Applicant respectfully asserts that *Sethian, Ito* and the remaining art of record, alone or in combination, fail to disclose, teach or suggest the following limitation combinations of new independent claims 16, 28 and 29:

1. "back propagating the front along a first track starting at the end point through the children and the fathers of the first track until the start point is reached whereby the points of the path following the threadlike structure in the image are extracted" as recited in independent claim 16;
2. "means for utilizing a filiation front marching technique to march a front from the start point through points dented as fathers and children to the end point and to subsequently propagate backwards from the end point through each child and father until the start point is reached" as recited in independent claim 28; and
3. "means for propagating the front forwards between the start point and the end point when the following conditions are satisfied for selecting a second point (child) to succeed a first point (father) of the grid to form the track", "a law of location for the first point (father) which must already pertain to the front, and a criterion of cost for the first point (father) referred to as cumulated costs which must be minimal compared to the cumulated costs of other points of the front", "a law of location for the second point (child), which must be on the same row or column of the grid (city block distance) as the first point (father) with one grid point interval, and a criterion of cost referred to as cumulated costs for said second point (child) which must be minimal compared to cumulated costs obtained with other possible first points (fathers)", and "a law of filiation according to which said

September 8, 2003  
Case No. PHF 99,548 (7790/275)  
Serial No.: 09/587,394  
Filed: June 5, 2000  
Page 13 of 14

determined second point (child) becomes a possible further first point (father) of the front for further forwarding the front, said cumulated costs including a term of the minimum among the cumulated costs of the succeeding points already selected from the start point to a so-called first point and a term of the potential at a so-called second point" as recited in independent claim 29.

Withdrawal of the rejection of independent claim 1 under 35 U.S.C. §103(a) over *Sethian* in view of *Ito*, and an allowance of claims 16-29 are therefore respectfully requested.

September 8, 2003  
Case No. PHF 99,548 (7790/275)  
Serial No.: 09/587,394  
Filed: June 5, 2000  
Page 14 of 14

**SUMMARY**

Examiner Patel's objection to the specification and drawings have been obviated by the submission of a responsive substitute specification and a replacement drawing sheet 1/3. Examiner Patel's objections and rejections of pending claims 1-15 have been obviated by the cancellation herein of claims 1-15. The Applicant has supported an allowance of new claims 16-29 over the art of record. The Applicant respectfully submits that new claims 16-29 as added herein fully satisfy the requirements of 35 U.S.C. §§ 102, 103 and 112. In view of the foregoing, favorable consideration and early passage to issue of the present application is respectfully requested. If any points remain in issue that may best be resolved through a personal or telephonic interview, Examiner Patel is respectfully requested to contact the undersigned at the telephone number listed below.

Dated: September 8, 2003

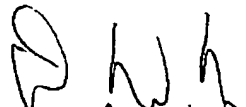
Respectfully submitted,  
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